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Studies in *Sisyrinchium*—IV : *S. angustifolium* and related Species of the West and Northwest

BY EUGENE P. BICKNELL

The simple-stemmed blue-flowered *Sisyrinchia* of the far west and northwest which have hitherto been referred mostly to *S. angustifolium* Miller in reality represent a group of distinct species. This appears unmistakably from a considerable collection of specimens brought together from various sources ; but it is further evident from this same material that, largely by reason of its general deficiency in specimens with mature fruit, it forms a wholly inadequate basis for the confident segregation of the various forms.

The problem presented therefore is the reduction of this inchoate mass into some approach to natural order under conditions which make impossible a final and satisfactory result. In order to take any forward step in these circumstances it is necessary to proceed in great part on the individual judgment pending the final proof which a sufficient series of specimens can alone afford. Under the risk of error involved in thus attempting the disentanglement of the species, I have aimed rather to avoid the creation of any mere synonym than to define the exact nature of the differences between the forms recognized, whether varietal or fully specific. And a number of forms have been passed over entirely as appearing to have too uncertain claims to possible specific rank.

***Sisyrinchium Idahoense* sp. nov.**

From 20–45 cm. high, pale green and glaucous, usually showing some discoloration in drying. Leaves from half to three quarters the height of the stem, grass-like, varying from thin and somewhat lax to firm and closely erect, and from 1–3.5 mm. in width, attenuate to somewhat abruptly acute, the edges serrulate or smooth : stem straight and erect or somewhat flexuously curved, frequently twisted, simple or occasionally bearing a leaf near the top subtending one or two short branches, 1–3 mm. wide, winged, the edges sometimes smooth but usually distinctly serrulate, or even hispidulous-aculeolate : spathes often deflected, green or faintly purplish, long and relatively narrow, the keels of one or

both bracts often serrulate or hispidulous; outer bract 3–6 cm. long, commonly $\frac{1}{4}$ – $\frac{1}{3}$ longer than the inner one, rarely twice its length, foliaceous and abruptly pointed or more slender and attenuate, the margins below narrowly hyaline, united for about 4 mm. at base; inner bract 2–3.5 cm. long, herbaceous, the margins narrowly hyaline, obtusely pointed or acute; interior scales mostly about $\frac{3}{4}$ the length of the inner bract; the spathes, when borne on branches, are shorter with less prolonged outer bract than when terminating the main stem: flowers 3–6 on erect pedicels 1.5–3 cm. long, deep violet-blue, with rather small yellow eye, large, perianth 12–18 mm. long, indicating an extreme spread of over 3.5 cm.; staminal column 5–8 mm. high; ovary glandular puberulent: capsules globose or ovoid, 4–6 mm. high, rather thick-walled, turning dark; seeds (immature) irregularly obovoid, angled, rugulose, stipitate, about 1 mm. in longer diameter.

Idaho, Washington, Oregon and California. Meadows and moist grassy places, flowering in northern Idaho from the middle of May into July, in western Oregon about a month earlier.

Idaho: Kootenai Co., J. B. Leiberger, Geo. B. Aiton; Latah Co., L. F. Henderson; Nez Perces Co., J. H. Sandberg.

Washington: Whitman Co., A. D. E. Elmer, C. V. Piper; Chehalis Co., A. A. & E. Gertrude Heller.

Oregon: "Eastern Oregon," L. F. Henderson; Crook Co., J. B. Leiberger; Benton Co., A. Isabel Mulford.

California: Mt. Shasta, 6000 ft. alt., Geo. Engelmann; Yosemite Valley, H. Mann.

I find the labels on specimens of this plant variously inscribed with the names, *S. angustifolium*, *S. anceps*, *S. mucronatum* and *S. bellum*. On one sheet all four names appear in different handwritings, well illustrating the confusion that has prevailed in regard to the plant.

The species may be taken as the northwestern representative of *S. angustifolium* to which it is nearly related, differing in its typical state mainly in more ciliolate-serrulate stems, longer spathes with less unequal, more foliaceous bracts and much larger flowers; it is also, as a rule, less stiff and straight, the stems often somewhat curved; the spathes frequently deflected and enclosing longer membranous scales than in *S. angustifolium*. In the usual state of the latter the wings of the stem are manifestly widened into the base of the spathe; in *S. Idahoense* they are scarcely, if at all, so

widened, but may be even slightly narrowed conformably with a joint-like transverse constriction where the raised line of the stem disappears as if pinched out below the base of the spathe. Suggestions of this character casually appear in *S. angustifolium* in which, however, as a rule, the raised line of the stem passes uninterruptedly into the stiff erect spathe.

Stouter, broader-leaved forms of *S. Idahoense* appear somewhat intermediate in aspect between *S. angustifolium* and *S. littorale* Greene, of Alaska. From the latter, however, the species differs essentially in its larger flowers and smaller fruit; it is also less stout, paler and more glaucous, with narrower leaves of thicker texture and less foliaceous and differently shaped inner bract.

The type specimens from northern Idaho, Nez Perces Co., have rather long and broad thin leaves, long foliaceous bracts and very large flowers. The capsules are 4–6 mm. high, and mostly obovate-subglobose often contracted to a substipitate base. Most specimens from Idaho and some from Washington agree closely with these, although other specimens are much slenderer and with smaller flowers. Some specimens from Oregon and Washington, somewhat doubtfully referred here, bear two peduncled spathes and have stiffer leaves, shorter often purplish spathes, apparently smaller flowers and rather larger more globose fruit on slightly more exserted pedicels. Other specimens, from western Oregon are noteworthy from having dried uniformly dark and for their long often flexuous and branched stems, and rather small somewhat obovate fruit. The specimens cited from California are both in poor condition, and though appearing somewhat aberrant are certainly nearer to *S. Idahoense* than to any other species now known.

***Sisyrinchium occidentale* sp. nov.**

Mostly over 20 cm. high (15–35 cm.), stiff and erect, glaucescent to pale glaucous green, usually with a yellowish tinge, discoloring slightly in drying; roots clustered, usually coarsely fibrous. Leaves 1–2.5 mm. wide, firm and erect or sometimes thinnish, strongly or rather weakly close-nerved, very acute, the extreme tip often hardened in age, the basal remains of older leaves frequently becoming bleached and silvery: stems stiffly erect, usually much longer than the leaves, 1–2 mm. wide, wing-margined, the wings usually closely few-striate, the edges like those of the leaves

very smooth, a slight transverse constriction just below the spathe: spathes erect or slightly deflected, green or faintly dull purplish, the bracts often thin and rather weak-nerved, the outer one mostly straight, the inner one more or less convex in outline; outer bract surpassing the inner 2–15 mm., mostly 2–3 cm. long, attenuate-acute, hyaline-margined below and united-clasping for 2.5 mm. at base; inner bract rather broadly hyaline-margined nearly to the apex, sometimes acuminate but usually broad above and abruptly acute or even scarious obtuse; interior scales rather broad, often nearly equaling the inner bract: flowers 3–6, medium to large, deep violet-blue on erect exserted pedicels; perianth 10–14 mm. long; staminal column 4–6 mm. high; capsules (not fully mature) subglobose, brown, about 4 mm. high, apparently rather few-seeded, and glabrate or nearly so at maturity.

Idaho and Nevada to Colorado and North Dakota, flowering in June and July.

Idaho: Arco, June 18, 1893, Dr. Edward Palmer; Pleasant Valley, June 25–30, 1891, G. N. Allen.

Nevada: Pleasant Valley, May, 1865.

Utah: Supply Creek, July 29, 1875, 9000 ft., L. F. Ward; Salt Lake Valley, July, 1888, J. H. Paul; Bear River Cañon, Aug., 1869, S. Watson.

Colorado: Hot Sulphur Springs, Middle Park, Aug. 1, 1881, Geo. Engelmann; Twin Lakes, July 6, 1896, Biltmore Herb.

Montana: West Gallatin River, June 9, 1883, F. Lamson-Scribner, no. 271, "moist banks"; Helena, June, 1888, F. D. Kelsey.

Wyoming: F. Tweedy; Yellowstone National Park, Mrs. Moore, 1894; Mammoth Hot Springs, 6000–7000 ft., June 4, 1894, F. H. Burglehaus; May, 1889, 6600 ft., F. W. Dewart; North Platte, "wet sandy bottom," July 25, 1858; Jackson's Hole on Snake River, June 18, 1860, F. V. Hayden, "gravelly bottoms. 6000 ft.;" Ft. Bridger, July, 1873, T. C. Porter.

A species resembling forms of *S. angustifolium* but evidently distinct, and probably not distantly related to *S. halophilum* but usually much stouter and taller and with much larger flowers. It differs from *S. angustifolium* mainly in much less elongated outer bract and larger interior scales, more narrowly winged stem, constricted below the frequently deflected spathes, larger flowers and apparently smaller fewer-seeded capsules. The material at hand,

however, is inconclusive as to the exact character of the mature capsule and seeds.

Certain small specimens, imperfect as to flowers and fruit, appear somewhat intermediate with *S. halophilum*, but the fully developed states of the two plants show them to be distinct. From *S. halophilum* the present species differs in brighter green color, less thickened roots, broader leaves and stem, the latter more decidedly winged, larger spathes with more unequal and acute bracts, larger flowers on more slender pedicels, larger and darker glabrate capsules.

Several small specimens from the Mammoth Hot Springs with mostly curved stems, and leaves very variable in length and breadth are referred here with some hesitation. A single specimen from North Dakota is old and fragmentary but at present can be placed with no other species than this. In fact I am obliged to make this species for the present a repository for a somewhat ill-assorted series of specimens which may represent more than one species but which it is impossible to place satisfactorily wanting a better knowledge of their flowers and mature fruit.

***Sisyrinchium segetum* sp. nov.**

Duller green and less glaucous than *S. occidentale*, even scarcely glaucescent, with narrower and thinner leaves and more numerous and narrower stems apparently growing close together in dense masses rather than tufted: leaves mostly setaceous and 1 mm. wide (.5–1.5 mm.), not very close-nerved except when young, sometimes roughish toward the tapering acuminate often bent apex: stems mostly 1 mm. or less wide, the narrow wings thin, with almost hyaline edges: spathes mostly purplish to red-purple, sometimes nearly green, stiffly erect, the outer bract very slenderly attenuate sometimes for fully half its length, tapering acute, 18–38 mm. long, subequal with the inner bract or surpassing it by 12 mm., or even more, the inner bract narrower, more slenderly attenuate and less hyaline-margined than in *S. occidentale*: flowers on very slender often subspreading pedicels, very large and deep violet-blue, the perianth 12–17 mm. long indicating an extreme spread of over 3 cm., the segments slenderly aristulate; staminal column 5–7 mm. high; capsules broadly oblong, 5–6 mm. high, brown, transversely corrugate, many-seeded, seeds irregularly obovate, 1 mm. in longer diameter, black, faintly pitted to smooth.

Washington: Seattle, May, 1892, in full flower, Chas. V.

Piper, ex Herb. Young Naturalist's Society, Herb. Columbia University; Yakima region, T. S. Brandege, 1882, mature fruit, Herb. Mo. Bot. Gard.

Oregon: "Prairies Western Oregon," May, 1880, in full flower, Thomas J. Howell; distributed as *S. bellum* Watson in Howell's "Pacific Coast Plants," U. S. Nat. Herb.

Nevada: Washoe Co., alt. 1500 m., July 21, 1896, mature fruit, F. V. Coville and J. B. Leiberger, U. S. Nat. Herb.

An attractive plant evidently with close affinity to *S. occidentale*; though not actually proved to be distinct by the few specimens before me I feel little hesitation in giving it a name. It appears to be less glaucous than *S. occidentale* with narrower more numerous and crowded leaves and stems of thinner texture, slenderer roots, larger often red-purple spathes and narrower mostly more unequal bracts, the inner one especially more attenuate and acute. The highly colored spathes give the plant much the aspect of forms of *S. mucronatum* of the East.

The sheet of specimens cited from Nevada shows fruiting plants which differ strikingly from the other examples, yet for the present I can refer them nowhere else than here. They are very slender with long somewhat flexuous stems and very narrow deflected spathes having the lower part for about 5 mm. scarcely or not at all broader than the stem.

SISYRINCHIUM HALOPHILUM Greene, Pittonia 4: 34. 17 Mr. 1899

Very pale dull green and white glaucous, mostly low, 10–20 cm. high, stiff and erect or nearly so, the thickened roots densely clustered: leaves half the height of the stem or longer, stiff and thickish, often slightly curved, 1–3 mm. wide, strongly close-striate, smooth-edged, attenuate, acute, in age developing hard-pointed tips: stem from less than 1 mm. to 2 mm. wide, wiry, ascending or outcurved, margined to narrowly winged, the wings thick and firm, smooth-edged: spathes erect, green, rather flat and sharp-edged, 2–4 mm. wide, the bracts striate, subequal or the outer one slightly prolonged; outer bract 15–22 mm. long, usually somewhat convex, acuminate to a short-pointed mostly obtuse often incurved apex, hyaline-margined, united clasping for 3–4 mm. at base; inner bract more broadly hyaline, abruptly acute to obtuse; interior scales more than half the length of the inner bract: flowers 4–8, small to medium-sized, perianth apparently

becoming 10 mm. long, violet-blue; capsules 2-3.5 mm. high, subglobose, often broader than long, strongly trigonous, or even trilobulate around an impressed base, pale, scabrous-puberulent, on erect, slightly exserted pedicels: seeds few, 1-3 in each cell, large, becoming 1.5 mm. long, rugulose-pitted.

Nevada: Humboldt Wells, July 25, 1893, Edw. L. Greene, Herb. E. L. G.; Diamond Valley, July, 1868; 5500 ft. alt., S. Watson, Torrey Herb. and Herb. Mo. Bot. Gard.

California: Bishop, Owen's Valley, alt. 5000 ft., May 15, 1897, M. E. Jones, U. S. Nat. Herb.

Type specimens from Humboldt Wells, Nevada, which have been kindly sent me by Professor Greene are not closely matched by anything else I have seen and may perhaps represent a specialized halophilous type.

***Sisyrinchium leptocaulon* sp. nov.**

Growing in erect narrow tufts from coarse fibrous roots, rather bright pale green and glaucescent, the spathes mostly dull purplish: stems numerous, very slender, 20-38 cm. high: 1 mm. or less wide, wiry and subterete, slightly constricted just below the spathe, the almost membranous margins very narrow or even obsolete: leaves about half the height of the stem or less, equally slender or sometimes the shorter ones becoming 2 mm. wide, smooth-edged, attenuate, the apex often linear with a thickened corneous tip, which is obtuse or acute: spathes very small and narrow, the base less flattened and more narrowed than in *S. halophilum*, the bracts subequal or the outer one rarely surpassing the inner 8 mm.; outer bract 12-22 mm. long, hyaline-margined to the short and rigid, linear, obtuse prolongation, closely united clasping for 2-4 mm. at base; inner bract hyaline-margined to the very obtuse or truncate scarious apex; longer interior scales sometimes nearly equaling the inner bract, longer and narrower than in *S. halophilum*: flowers 3-9, blue or violet, small, the perianth apparently only 7-9 mm. long, the staminal-column 3-6 mm. high; pedicels 13-22 mm. long, erect and exserted for about one quarter of their length, usually flattened and margined: capsules very small, 1.5-3 mm. high, often distinctly pyriform though sometimes abruptly contracted at both ends, finely scabrous-rugulose and sparsely puberulent, pale but much purplish-tinged, thinner-walled than in *S. halophilum* and less strongly trigonous: seeds few, only 1-3 in each cell, subglobose or broadly oblong, finely rugulose, 1-1.5 mm. in longer diameter.

California : Near Lake Tahoe, July 20, 1889, J. Ball, Herb. Acad. Nat. Sci. Phil.

Nevada : Deeth, July 14, 1896, E. L. Greene ; Ruby Valley, July, 1868, 6000 ft., S. Watson, ex Torrey Herb. and Herb. U. S. Nat. Mus.

Utah : Parley's Peak, 6000 ft., June, 1869, S. Watson, ex Torrey Herb.

Nearly allied to *S. halophilum* Greene, and possibly a variety of that species, although I am inclined to regard it as quite distinct. It is a taller, and more slender plant than *S. halophilum*, of a very perceptibly brighter and more yellowish shade of green and with straighter and more clustered stems ; these are long and exceedingly slender with the wings reduced to little more than membranous edges. The narrower leaves are less strongly striate and thickened than in *S. halophilum* and more slenderly attenuate, and are apparently also without the abrupt membranous expansion at the extreme base although narrowly clasping below for a longer distance. The purplish spathes are less flattened and less decidedly two-edged below, the narrower bracts less strongly striate, narrower and usually more unequal, the outer one less convex with longer linear tip, the inner one more abruptly scarious-obtuse ; the capsules are smaller, more pyriform, thinner-walled, less strongly trigonous and more rugulose and scabrous-puberulent.

***Sisyrinchium septentrionale* sp. nov.**

Growing in small tufts 10–25 cm. high, pale and glaucous, discoloring slightly in drying. Leaves $\frac{1}{2}$ – $\frac{3}{4}$ the height of the taller stems, equaling the shorter ones, stiff and erect, mostly setaceous slender and .5–1 mm. wide, rarely 1.5 mm., finely close-striate, attenuate to an acute point : stems equally slender with the leaves, stiff and narrowly firm-margined, the edges like those of the leaves smooth or, when young, minutely denticulate : spathes small, purplish or green, often partly double, one or more flowers arising from between the short proper spathe and the closely subtending slenderly prolonged outer bract ; inner bract 13–20 mm. long, mostly attenuate and acute, the outer one 2.5–4 cm. long, and united-clasping for 2–3 mm. at base ; both bracts hyaline-margined ; interior scales about $\frac{3}{4}$ the length of the pedicels ; flowers very small, apparently not more than 3–4 on erect pedicels usually shorter than the inner bract ; perianth 4–7 mm. long,

acuminate and short aristulate, not retuse, apparently pale rose or violet; staminal column about 3 mm. high: capsules on firm erect pedicels about 15 mm. long, pale, subglobose, relatively large, 3–5 mm. high.

Assiniboia: Moose Mountain Creek, June 6, 1883, J. M. Macoun, "margins of marshes and streams," just in flower. Herb. Torr. Bot. Club.

Alberta: Near Banff, July 8, 1891, Macoun, in flower and young fruit. U. S. Nat. Herb. and Herb. Mo. Bot. Gard.

Washington: Wilkes Expedition, 1838–42, "Spokane to Colville." U. S. Nat. Herb.

Idaho: Soda Springs, June 21, 1892, A. Isabel Mulford.

Characterized especially by small size, extremely narrow leaves and stems, very small, pale flowers, with the divisions of the perianth non-emarginate, slenderly much prolonged outer bract and relatively large subglobose capsules. Perhaps most nearly related to *S. alpestre*. The specimens from Idaho are without perfect flowers or fruit; though resembling those from British America they have much less elongated primary bract and may not be the same.

***Sisyrinchium alpestre* sp. nov.**

Tufted, becoming 20 cm. high, dull green and glaucous, discoloring slightly when dry. Leaves about half the height of the stem, stiff and erect, .5–2 mm. wide, closely striate-nerved, rather abruptly cuspidate acute, the edges smooth or slightly denticulate above in young leaves: stems slender, 1–1.5 mm. wide, narrowly firm-winged, the edges smooth, distinctly broadened into the base of the spathe: spathes green, narrow, 2 mm. or more wide at base, the outer bract very long and slender, sometimes slightly broadened above the middle, straight or curved, 4.5–6.5 cm. long, surpassing its fellow 2.5–3.8 cm., the margins narrowly hyaline below, united-clasping for 4–6 mm. at base; inner bract 1.8–3 cm. long, narrow and slenderly prolonged, acute, the margins below white-hyaline; interior scales broad, obtuse, about half the length of the fruiting pedicels: flowers on firm erect pedicels 14–18 mm. long, and shorter than the inner bract, small, perianth apparently only 6–10 mm. long, with the divisions not emarginate but narrowed to a short-aristulate tip, faded but appearing white, though in one flower showing the faintest tinge of violet; column becoming 5 mm. long: immature capsules narrowly obovoid-oblong, evidently large and apparently obovoid at maturity, the oldest one 6 mm. long and 4 mm. wide at the top.

Colorado: Como, 9775 ft. altitude, in meadow, Aug. 3, 1895. "Crandall & Cowen," no. 477, Flora of Colorado. U. S. Nat. Herb.

Related to *S. angustifolium*, and perhaps to be referred to an alpine variety of that species, but *S. angustifolium* is also a plant of very high altitudes in Colorado, occurring in a stout and nearly typical form which contrasts notably with the slender plant here described, although more slender Rocky Mountain forms of *S. angustifolium* appear less distinct. An understanding of the true status of the plant must await further material, especially the mature fruit. In any case it is clearly something quite different from the ordinary eastern *S. angustifolium*. In respect of the slenderly prolonged inner bract and small pale flowers with non-emarginate segments the plant shows much similarity to *S. sarmentosum* and in its flowers and general habit to the much smaller *S. alpestre*. It differs from typical *S. angustifolium* in duller gray-green color, greater slenderness, thicker and more closely striate leaves, narrower and more slenderly prolonged bracts which are less strongly nerved and with more hyaline edges, smaller paler flowers with unnotched segments, shorter pedicels, more obovoid-oblong capsules.

S. SARMENTOSUM Suksdorf; Greene, Erythea 3: 121. 1895.

Tufted or closely massed in growth, 1.5–2.8 cm. high, dull green and glaucescent discoloring in drying: roots slender and numerous: leaves rather thin, erect, equaling the stem or shorter, rather weakly nerved, 1–3 mm. wide, attenuate, acute, smooth-edged or sometimes serrulate when young: stem 1–1.5 mm. wide, narrowly wing-margined, the wings not broadened into the base of the spathe, smooth-edged or obscurely denticulate, erect or somewhat outcurved, simple and leafless, or occasionally developing a terminal node bearing a slender elongated leaf or cluster of several leaves subtending an outcurved peduncle: spathes green, erect or bent forward, narrow, 1–2 mm. wide at base, the bracts foliaceous, thin and somewhat membranous, striate, closely parallel, both narrowly prolonged to the rather abruptly acute or obtusish apex, the outer one 3–6 cm. long, surpassing the inner one 1–2.5 cm., broadened above the middle, the margins narrowly hyaline, united for 3–5 mm. at base; inner bract more than half the length of the outer one, also herbaceously prolonged but narrower and more scarious margined, 2–3.5 cm. long: flowers 1–3, light blue, small,

the perianth 7–10 mm. long, the segments not usually emarginate but abruptly contracted into the short-aristulate tip: staminal column 4–5 mm. long; pedicels slender, in fruit 1.5–2.5 mm. long, ascending or somewhat spreading from about midway in the spathe: capsules thin-walled, subglobose, transversely corrugate at maturity, 4–5 mm. high: seeds not fully mature, black, finely rugulose pitted, asymmetrically obovoid or curved, angled.

Washington, Skamania Co., no. 2233, W. N. Suksdorf, August 31, 1893. "Borders of meadows 2000–3000 ft. altitude." In full flower and fruit.

As remarked by Professor Greene in his publication of this species the fitness of the name given by Suksdorf is not evident. I have examined three sheets of the original collection mounting several good sized tufts as well as separate specimens. The printed label reads "stems sometimes rooting at the nodes," but no evidence of such a character is shown by the specimens, which are simple-stemmed and erect, bearing a node, when at all, only at the top.

The plant is clearly an excellent species. Its very narrow bracts alone, especially the narrowly foliaceous inner one, give it an aspect quite different from that of any other species known to me except perhaps *S. alpestre*, which is amply different in other respects. In the nearest approach to this character of the inner bract ever seen in *S. angustifolium* the herbaceous prolongation is more or less abruptly attenuate, quite in contrast with the linear-prolonged and more foliaceous condition characteristic of *S. sarmentosum*. An approach to this condition, but on a larger scale, is sometimes seen in *S. Idahoense* and *S. littorale*. *S. sarmentosum* differs further from *S. angustifolium* in slender, often curved stems with the wings not widened into the base of the spathe, which is frequently deflected and much narrower, fewer smaller flowers on more slender and spreading pedicels, the segments of the perianth not emarginate, smaller fruit.

SISYRINCHIUM LITTORALE Greene, Pittonia, 4: 33. 17 Mr. 1899.

Apparently little or not at all tufted, stout, 15–35 cm. or more tall, or sometimes much lower and depauperate, apparently not glaucous, or but slightly so, dull green, turning dark in drying: roots fibrous, slender, mostly spreading from a strong woody axis: leaves 2–4 mm. wide, half the height of the stem or longer,

erect, rather thin and openly striate-nerved, tapering-acute or acuminate, narrowed to both base and apex, the edges mostly roughened, the inner margins below white-scarious; stems stout, simple, rarely bearing a terminal leaf subtending an erect peduncle, 2-3 mm. wide, prominently winged, the wings with thin serrulate edges, not broadened into the base of the spathe and showing a slight transverse constriction at the top: spathes green, erect, or slightly deflected, 4-6 mm. wide, flat, the bracts foliaceous; primary bract 3.7-8 cm. long, surpassing the inner bract mostly 1-4 cm., only exceptionally twice its length, very gradually narrowed to the acute or obtuse pointed apex, the inner margins below narrowly white-hyaline, united for about 5 mm. at the base; inner bract 2.3-4.8 cm. long, often of nearly equal breadth throughout below the abruptly somewhat obtuse apex, or occasionally narrowly prolonged; interior scales narrow, much shorter than the inner bract: flowers few, 1-4, on pedicels mostly a little shorter than the inner bract, large, deep violet-blue with an orange-yellow eye, the perianth 12-14 mm. long; anthers relatively small; staminal column about 6 mm. high: capsules large and thick-walled, dark, obovoid or subglobose, 6-8 mm. high, on erect or slightly spreading pedicels 1-2 cm. long: seeds globose, 1.5 mm. in diameter, black, rugulose-pitted almost to maturity when nearly smooth, the umbilicus usually appearing as a mere cleft.

Grassy beaches and shores, coast of Alaska, beginning to flower in late June and early July, fruit ripe in August. So far as known, restricted to the southern Alaskan coast and the only species of *Sisyrinchium* occurring in that territory. Shores of Yes Bay, July 3, 1895, Thos. Howell, no. 1662; Back Bay, July 3, 1895, M. W. Gorman; shores of Behm canal, Aug. 3, 1894, M. W. Gorman; Sitcha, Ferd. Bischoff, 1865-7, Dr. Tiling, 1867.

Although long known and of late years fairly well distributed in collections, this Alaskan plant seems never to have been looked upon as different from the eastern *S. angustifolium* until recently distinguished by Professor Greene, as a matter of fact since the above description was penned. In other writings, as on specimen labels, the plant has been variously referred to as *S. angustifolium* under the names *S. anceps* Cav., *S. Bermudiana* var. *anceps* Gray and *S. mucronatum* Michx. The species is well distinguished from *S. angustifolium* being larger in every way, in fact, notwithstanding its boreal habitat the stoutest species of the simple-stemmed sec-

tion of the genus. It is not nearly so pale and glaucous as *S. angustifolium*, if at all so, and dries much darker; the leaves and stem are broader, the spathes and bracts larger and of a somewhat different shape, the flowers and especially the fruit larger, the seeds little larger but darker, more globose and more distinctly and narrowly umbilicate. *S. littorale* has perhaps its nearest relative in *S. Idahoense*, but is clearly separable by thinner and broader leaves and stem, smaller flowers and larger fruit.